

AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1. (Currently Amended) An ambulatory robot including a lower body part having two or more legs and an upper body part installed on an upper end of the lower body part and capable of performing positional displacement by moving the lower body part, the ambulatory robot comprising:

slope-detection means for sensing a slope of a floor, the slope of the floor being defined only directly under the two or more legs of the ambulatory robot;

rotating means installed on a bottom surface of each of the two or more legs; and

control means for controlling a motion of the ambulatory robot using the lower and upper body parts,

wherein the control means controls a speed of revolution of the rotating means and a speed of motion of the two or more legs of the ambulatory robot based on the slope of the floor, the control means being configured to vary the speed of motion of the two or more legs between at least three different values based on the slope of the floor, and

wherein the control means controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by any of running, walking and sliding, depending on the controlled speed of revolution and on the speed of motion of the two or more legs.

2. (Original) The ambulatory robot as claimed in claim 1, further comprising:
decelerating means for slowing the speed of revolution of the rotating means, wherein the control means controls the decelerating means thereby controlling the speed of revolution of the rotating means.

3. (Original) The ambulatory robot as claimed in claim 2, wherein the control means controls the decelerating means so that the speed of revolution slows to zero when the slope of the floor sensed by the slope-detection means is greater than a first preset angle.

4. (Original) The ambulatory robot as claimed in claim 3, wherein the control means controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the speed of revolution equals zero.

5. (Original) The ambulatory robot as claimed in claim 3, wherein the control means controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by sliding when the slope of the floor sensed by the slope-detection means is less than the first preset angle but not less than a second preset angle.

6. (Original) The ambulatory robot as claimed in claim 3, wherein the rotating means comprises two or more wheels.

7. (Previously Presented) A method for controlling an ambulatory robot, the ambulatory robot including a lower body part having two or more legs and an upper body part installed on an upper end of the lower body part and performing positional displacement by moving the lower body part, the method comprising:

sensing a slope of a floor;

controlling a speed of revolution of a rotating means that is installed on a bottom surface of each of the two or more legs based on the slope of the floor; and

controlling a motion of the ambulatory robot using the upper and lower body parts so that the positional displacement of the robot is performed by any of running, walking or sliding, depending on the controlled speed of revolution with respect to the slope of the floor, so that the positional displacement of the ambulatory robot is performed by walking when the slope of the floor sensed by the slope-detector is greater than a first preset angle, by sliding when the slope of the floor sensed by the slope-detector is less than the first preset angle but not less than a second preset angle, and by running when the slope of the floor sensed by the slope-detector is less than the second preset angle.

8. (Original) The method as claimed in claim 7, wherein controlling the speed of revolution comprises:

slowing the speed of revolution of the rotating means while the rotating means is rotating.

9. (Original) The method as claimed in claim 8, wherein controlling the speed of revolution comprises:

slowing the speed of revolution so that the speed of revolution slows to zero when the slope of the floor sensed in the step of sensing the slope is greater than a first preset angle.

10. (Original) The method as claimed in claim 9, wherein controlling the speed of revolution controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the speed of revolution equals zero.

11. (Cancelled)

12. (Cancelled)

13. (Previously Presented) An ambulatory robot including a lower body part having two or more legs and an upper body part installed on an upper end of the lower body part and capable of performing positional displacement by moving the lower body part, the ambulatory robot comprising:

a slope-detector for sensing a slope of a floor;

a rotator on a bottom surface of each of the two or more legs;

a decelerator adjacent to the rotator and configured to slow a speed of revolution of the rotator;

a controller for controlling a motion of the ambulatory robot using the lower and upper body parts, wherein the controller controls a speed of revolution of the rotator via the decelerator based on the slope of the floor, and controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by any of running, walking and sliding, depending on the controlled speed of revolution,

wherein the controller is configured to control the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the slope of the floor sensed by the slope-detector is greater than a first preset angle, by sliding when the slope of the floor sensed by the slope-detector is less than the first preset angle but not less than a second preset angle, and by running when the slope of the floor sensed by the slope-detector is less than the second preset angle.

14. (Cancelled)

15. (Previously Presented) The ambulatory robot as claimed in claim 13, wherein the controller controls the decelerator so that the speed of revolution slows to zero when the slope of the floor sensed by the slope-detector is greater than a first preset angle.

16. (Previously Presented) The ambulatory robot as claimed in claim 15, wherein the controller controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the speed of revolution equals zero.

17. (Cancelled)

18. (Previously Presented) The ambulatory robot as claimed in claim 15, wherein the rotator comprises two or more wheels.

19. (Previously Presented) The ambulatory robot as claimed in claim 13, wherein the slope-detector is in a foot of an ambulatory robot.

20. (Previously Presented) The ambulatory robot as claimed in claim 19, wherein the slope-detector includes a liquid storage space in the foot.

21. (Previously Presented) The ambulatory robot as claimed in claim 18, wherein a plurality of decelerators is positioned on opposite sides of each wheel.

22. (Previously Presented) The ambulatory robot as claimed in claim 7, wherein controlling a motion of the ambulatory robot using the upper and lower body parts so that the

positional displacement of the robot is performed by sliding includes maintaining a constant center of gravity of the ambulatory robot when the slope of the floor sensed by the slope-detector is less than the first preset angle but not less than a second preset angle, maintaining a constant center of gravity of the ambulatory robot including controlling a decelerator so the speed of revolution of the rotating means does not increase.

23. (Previously Presented) The ambulatory robot as claimed in claim 1, wherein the slope-detection means is in the two or more legs of the ambulatory robot, the slope of the floor being determined by positioning a first leg of the ambulatory robot with a slope detection means on the floor, and the control means being configured to control the speed of motion of a second leg of the ambulatory robot based on the slope of the floor.

24. (Previously Presented) The ambulatory robot as claimed in claim 1, wherein the control means is configured to control speed of running of the ambulatory robot by controlling the speed of revolution of the rotating means and the speed of motion of the two or more legs of the ambulatory robot based on the slope of the floor.

25. (New) The ambulatory robot as claimed in claim 1, wherein the control means is configured to control the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the slope of the floor sensed by the slope-detection means is greater than a first preset angle, by sliding when the slope of the floor sensed by the slope-detection means is less than the first preset angle but not less than a second preset angle, and by running when the slope of the floor sensed by the slope-detection means is less than the second preset angle.